

# Paducah Citizens Advisory Board

## Burial Grounds Subcommittee

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Lisa Santoro, DOE

Bruce Ford, LATA Kentucky



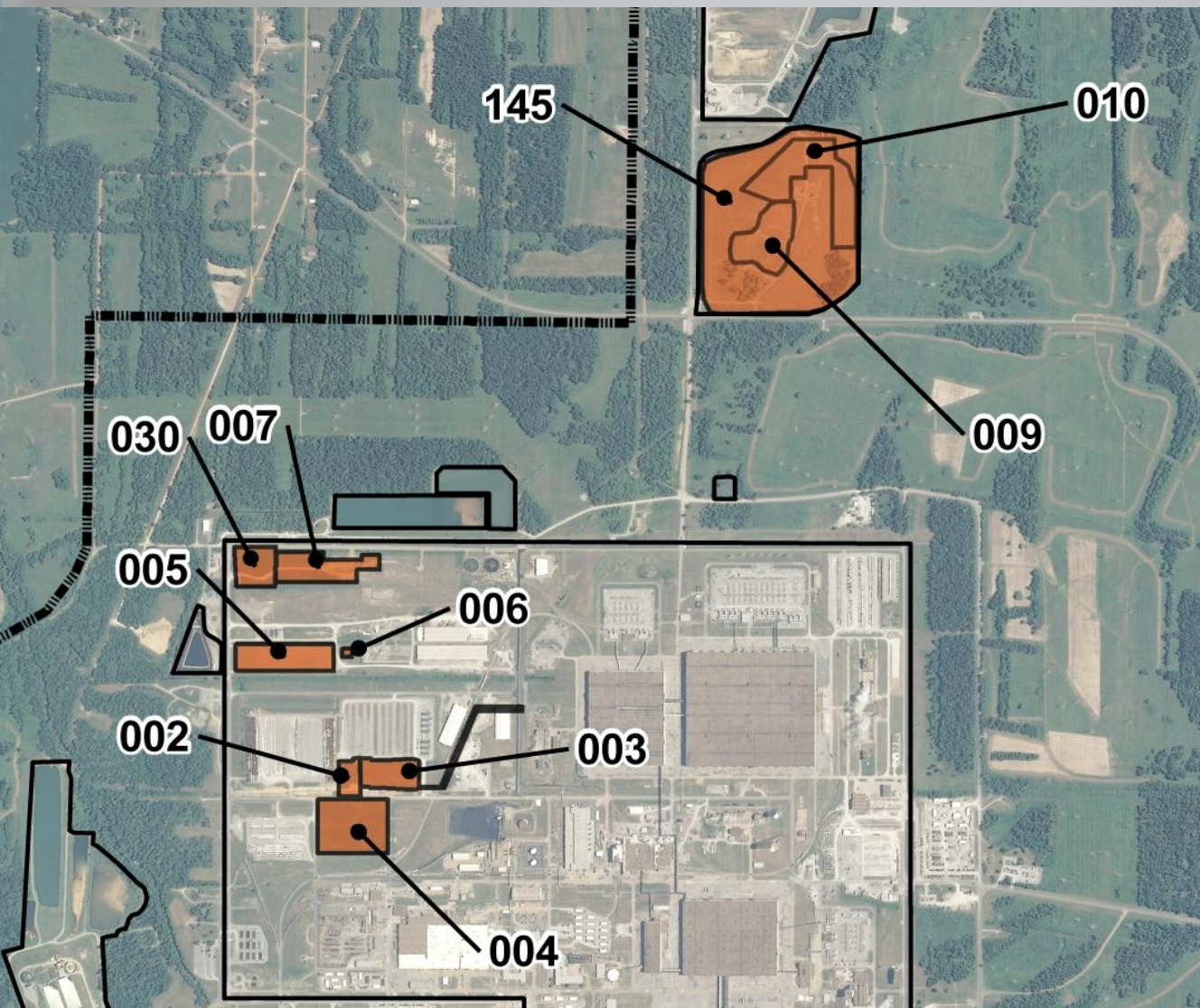
**CITIZENS**  
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*EM Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

# Burial Grounds



## Introduction

The Burial Grounds Operable Unit (BGOU) consists of areas of contamination associated with burial areas and landfills concentrated in the northwest quadrant of the plant.

There are 10 burial areas within the Burial Grounds Operable Unit.

These areas typically have items buried less than 20 feet from the surface.

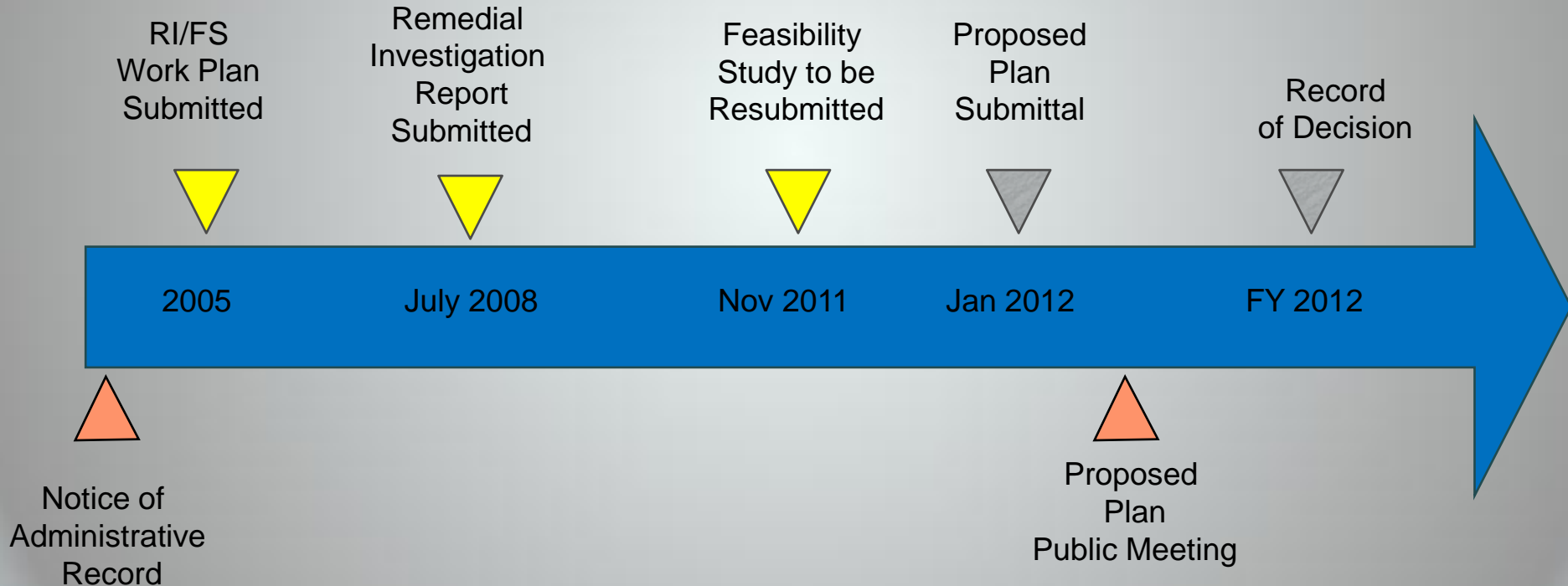
Contents may include hazardous, PCB, and low-level radioactive waste.

# Burial Grounds

- SWMU 2: C-749 Uranium Burial Ground
- SWMU 3: C-404 Low-Level Radioactive Waste Burial Ground
- SWMU 4: C-747 Contaminated Burial Yard and C-748-B Burial Area
- SWMU 5: C-746-F Burial Yard
- SWMU 6: C-747-B Burial Ground
- SWMUs 7 and 30: C-747-A Burial Ground and Burn Area and the area beneath SWMU12
- SWMU 145: Area P (residential/inert borrow area) and old North-South Diversion Ditch (NSDD); SWMUs 9 and 10 lie within the footprint of SWMU 145.

# Burial Grounds

## Original Approach



# Burial Grounds

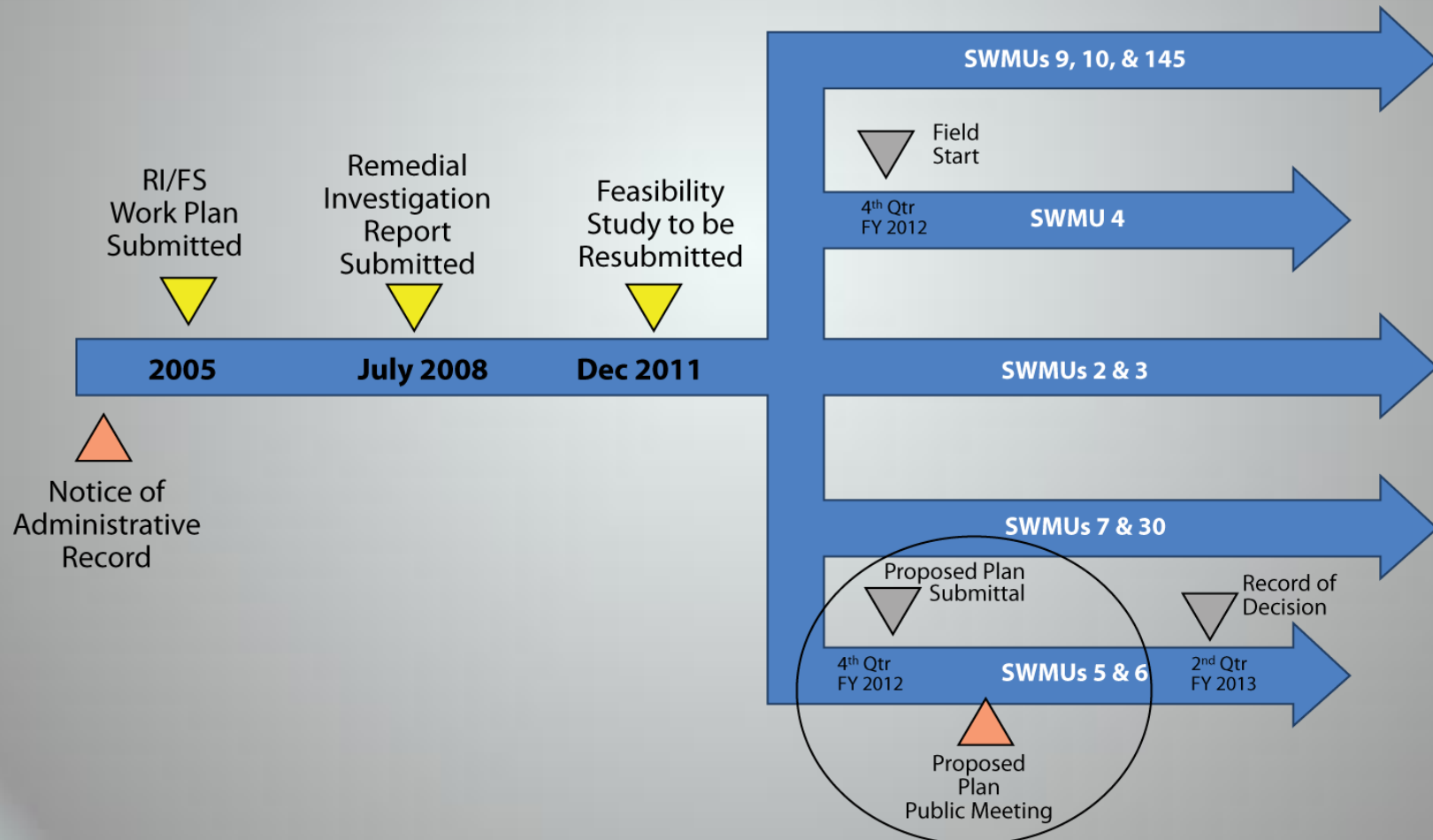
## Rationale for Changes to Original Approach

- Received regulatory nonconcurrence on the Feasibility Study (FS) in January 2011; entered Informal Dispute resolution under the FFA; later escalated to Formal Dispute.
- Formal Dispute resolved February 2012.
- Project scope subdivided into five subprojects.



# Burial Grounds

## Revised Approach (following Dispute)



# Burial Grounds

## Federal Funding Impacts

- BGOU Priorities inside 5-Year Window
  - SWMU 4: Completion of Investigation and CERCLA documentation through Remedial Action Work Plan (RAWP)
  - SWMUs 5 and 6: Completion of CERCLA documentation and Remedial Action (RA)
  - SWMUs 2, 3, 7 and 30: Completion of Feasibility Studies
- BGOU Priorities outside 5-Year Window
  - SWMU 4: Remedial Action
  - SWMUs 2, 3, 7 and 30: Remedial Action(s)
  - SWMU 145 (including SWMUs 9 and 10): All activities

# Burial Grounds

## Current Status: SWMU 5 and 6

- DOE issued FS (D2/R1) February 2012
- EPA and KY issued Conditional Approval April/May 2012
- DOE issued FS (D2/R2) August 2012
- EPA and KY issued nonconcurrence letters September 2012, which invoked Informal Dispute process
- DOE, EPA, and KY are working to resolve the Informal Dispute by November 30, 2012

## Current Status: SWMUs 2, 3, 7 and 30

- DOE issued FS (D1) April 2012
- KY issued comments August 2012
- EPA has not issued comments



# Burial Grounds

Sub Unit	Dates of Operation	Area of Waste	Cap	Known or Expected Contents
<b>SWMU 5 C-746-F Burial Yard</b>	1965–1987	197,400 ft <sup>2</sup>	2 to 3 ft soil	Radionuclide-contaminated scrap metal, slag from nickel and aluminum smelters
<b>SWMU 6 C-747-B Burial Ground</b>				
Area H	1971	180 ft <sup>2</sup> (6 ft deep)	3 ft soil	Magnesium scrap
Area I	1966	280 ft <sup>2</sup> (8 ft deep)	5 ft soil	Exhaust fans (contaminated with perchloric acid)
Area J	Early '60s	4,000 ft <sup>2</sup> (6 ft deep)	3 ft soil	Contaminated aluminum
Area K	1968-69	180 ft <sup>2</sup> (6 ft deep)	3 ft soil	Magnesium scrap
Area L	1969	600 ft <sup>2</sup> (6 ft deep)	3 ft soil	Modine Trap

# Burial Grounds

## SWMUs 5 & 6 Remedial Investigation Findings

- Waste materials have limited mobility
- No identified groundwater threats at either SWMU
- Seeps observed along south edge of SWMU 5 in 1997
- PAHs identified as COC in surface soils at SMWU 5
- Limited SWMU 5 surface soil data results in uncertainty of surface soil conditions

## What do these mean from a risk perspective?

- Eliminate direct contact with waste and impacted soil
- Resolve uncertainty associated with surface soils and seeps (SMWU 5)

## Considerations for FS alternative evaluation

- Wastes are not amenable to treatment
- Removal addresses all issues, but costly
- Land Use Controls and Containment (cap) both prevent direct contact
- Monitoring can identify unanticipated COC migration from the SWMU

# Burial Grounds

## SWMUs 5 & 6 FS Alternatives

- All developed alternatives meet threshold criteria (overall protection of human health and the environment and compliance with ARARs).
- Developed alternatives provide trade-offs between balancing criteria such as short-term effectiveness, long-term effectiveness, and cost.

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 6a
	No Action	Limited Action	Soil cover, LUCs and monitoring	18/6 soil cover, LUCs and monitoring	Subtitle D, LUCs and monitoring	Excavation and removal of all waste material	Excavation and removal of all waste material (Disposal at proposed On site waste disposal facility)
SWMU 5	X	X	X	X	X	X	X
SWMU 6	X	X	X	X			

# Burial Grounds

## Approach to Land Use and Future Use Consideration in the FS

- PGDP is an industrial facility and is expected to remain an industrial facility.
- The current access controls for SMWUs 5 and 6 are expected to continue into the foreseeable future.
- SMWUs 5 and 6 alternatives are consistent with future industrial use.

# Burial Grounds

## Upcoming Burial Grounds Activities

### SMWUs 5 and 6

- Informal Dispute Resolution
- Submit FS (D2/R3)
- Submit Proposed Plan

### SWMUs 2, 3, 7 and 30

- FS (D1)
  - KY's comments received September 2012
  - Anticipating receipt of EPA's comments

### SWMU 4

- Five-phase sampling approach